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PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE
THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Johannes Hendrikus VAN LITH et al.

Serial No. 09/883,364

Appeal No. _____

Filed June 19, 2001

GROUP 3682

DRIVING BELT AND TRANSVERSE
ELEMENT FOR A DRIVING BELT

REPLY BRIEF

MAY IT PLEASE YOUR HONORS:

January 18, 2005

This reply brief is in response to the Examiner's Answer of November 17, 2004. This brief is timely since January 17, 2005 was a federal holiday.

Appellants are not in disagreement with paragraph (1) of the Examiner's Answer.

As to paragraph (2), the Appeal Brief did address the issue of related appeals and interferences with the single word sentence "None."

Appellants are not in disagreement with paragraphs (3)-(10) of the Examiner's Answer.

Paragraph (11)

Paragraph (11) of the Answer states that 1) appellants have failed to state the structural features that result from the manufacturing process, and 2) appellants have failed to provide evidence that the manufacturing

process imparts distinctive structural characteristics to the final product.

Appellants disagree.

Appellants have made clear that the manufacturing process step of forming the element by cutting and simultaneously the projection/recess by deformation is in fact the manner in which the distinctive structural characteristics are formed. This forming of these features in the manufacturing process is what assures the inevitable consequence of the projection and recess of the elements are "self loosening", i.e., do/can not interlock in the longitudinal direction of the belt.

This same self loosening feature is an essential characteristic of the present type drive belt, which transmits the driving force between the two transmission pulleys by means of the adjacent elements mutually pushing each other forward (in contrast to other types of transmissions belts such as known from TAKAGI that are tensioned during operation).

The recitations of claim 1 are clear in this regard (emphasis added):

"the transverse element is a **cut single piece of material,**

"each transverse element (4) includes two recesses (7, 8) positioned opposite each other for receiving the band packages (5, 6), so that a first part (11) of the transverse

element (4) extends under said band packages (5, 6), a second part (12) of the transverse element (4) is positioned between said band packages (5, 6) and a third part (13) of the transverse element (4) extends above said band packages (5, 6),

"the front side of the first part (11) of the transverse element (4) includes a tilting line (18) extending in a horizontal direction and forming a transition between a part of the element at least including said third part (13) that has a substantially constant thickness as seen in side elevation and a further part of the element wherein said thickness tapers in a downward direction away from the tilting line (18), and includes *a projection (14) which can mate with a recess (15) in the adjacent transverse element (4) in a manner allowing free movement of adjacent elements in the longitudinal direction of the belt,*

"which recess (15) is a deformation recess on the rear side of the transverse element, the rear side being deformed to such an extent that the projection (14) is formed on the front side of the transverse element from displaced deformation material forming the recess,

"said projection (14) and said recess (15) extend in a horizontal direction over the entire dimension of the second part (12),...

The Examiner acknowledges that TAKAGI fails to disclose a deformation recess (page 4, last paragraph). The Examiner states in the Answer (page 5, top paragraph) that TAKAGI is used to teach that it is known to extend the projection and recess across the length of the transverse element in order to improve the efficiency of power transmission.

The issue is whether this disclosure motivates one of skill to modify MASUDA et al. The rejection fails because the Examiner fails to take into account that this disclosure is a teaching relevant to an interlocking set of elements where the transmission belts are tensioned during operation through this interlocking of the elements. This is not a teaching directed to elements which do not interlock. As noted in the Appeal Brief (page 7, third full paragraph), MASUDA et al. disclose transverse elements that, as in the present invention, are adapted for mutually independent functioning (MASUDA et al. column 1, lines 29-33 and 43-47) in that the elements are not interconnected and are slidable independently of each other along the endless band. Thus, MASUDA et al. do not disclose an "interlocking element" belt such as found in TAKAGI.

Such a transfer of the interlocking elements TAKAGI teaches to non-interlocking elements in MASUDA et al. is only by impermissible hindsight, and there is no reason to apply this teaching to the structure of MASUDA et al.

One of skill, when consulting TAKAGI, would immediately conclude that the interlocking element belt is a different operational type than that of MASUDA et al. (and the present invention). Further it is clear that one of skill would appreciate that TAKAGI is not manufactured as recited. Absent hindsight, there is no motivation to combine TAKAGI and MASUDA et al.

Indeed, appellants point out that TAKAGI's interlocking projection/recess design would add considerable weight and material to the transverse element in order to show that this would only deter one of skill from making the combination offered by the Examiner. This would be a disadvantage (a negative incentive) to one of skill, and absent a teaching of an over-riding advantage that results, one of skill would not add the material/weight to the elements.

One of skill does not make an element with more material and weight without a clear over-riding advantage. TAKAGI makes no such teaching.

The Appeal Brief contains the following supporting points.

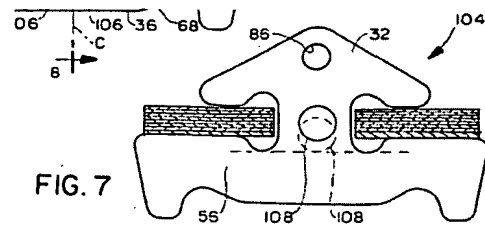
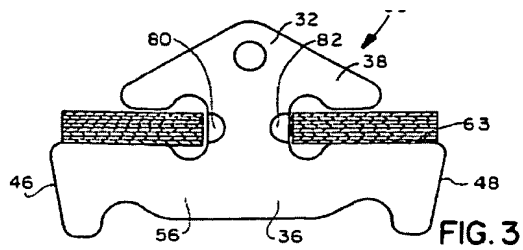
Appeal Brief page 4, first full paragraph states that each of independent claims 1, 10, and 12 recites structural features of the invention that i) the transverse element is a cut single piece of material, and ii) the recess 15 is a deformation recess on the rear side of the transverse element, the rear side being deformed to such an

extent that the projection 14 is formed on the front side of the transverse element from displaced deformation material forming the recess.

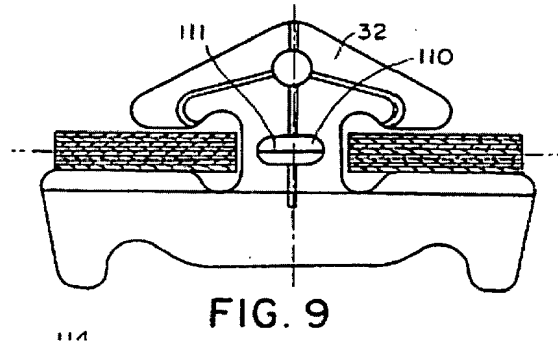
The Appeal Brief argued that one of skill can identify a transverse element that is a "cut single piece of material" and a recess that is "deformation recess ... [with] the rear side being deformed to such an extent that the projection (14) is formed on the front side of the transverse element from displaced deformation material forming the recess."

The Examiner has also not disputed that "a single cut piece of material" is a definite and distinctive structural characteristic of the recited product or that "the recess (15) is a deformation recess on the rear side of the transverse element, the rear side being deformed to such an extent that the projection (14) is formed on the front side of the transverse element from displaced deformation material forming the recess" is also a definite structural recitation.

It is not disputed that MASUDA et al. do not disclose that the projection and recess extend in the horizontal direction over the entire dimension of the second part even though MASUDA et al. do teach i) a pair of laterally located, opposing complementary projections and recesses (72, 72 and 80, 82 of Figures 2-5), and ii) as an alternative, a centrally located projection and recess (106, 108 of Figures 6-7).



The Appeal Brief pointed out that MASUDA et al. *teach away from extending the projection and recess completely over the horizontal portion of the second part* in that the disclosed embodiments are all of a confined nature, rather than an unbounded shape. See that although column 9, lines 53-56 of MASUDA et al. disclose that different shape projections are suitable, note that the embodiments are all of a confined object rather than an unbounded shape extending across the entire horizontal portion, i.e., the half-circular projections 80, 82 located at lateral sides of the middle part (Figure 3) and the oval or circular projections 110, 111 located at the center of the middle part (Figure 9).



The Examiner acknowledges that MASUDA et al. do not make the necessary teaching and relies on TAKAGI. But, as again argued above, this combination fails when one considers that TAKAGI relates to a different type belt than MASUDA et al., i.e., interlocking elements vs. non-interlocking elements.

Indeed, the Examiner in the Answer has not disputed that one of skill would appreciate that the block bodies 2 perform tensile transmission, and that the TAKAGI elements are not adapted for mutually independent functioning as the TAKAGI elements are interconnected (hinged) and are not slidable independently of each other along the endless band. Thus, the TAKAGI belt is acknowledged to be of a different operational type from the MASUDA et al. belt. Therefore, it seems clear that TAKAGI has structural requirements inconsistent with MASUDA et al. and would therefore not be a teaching source for MASUDA et al.

Summary

In summary, there is no proper motivation to combine these references. Appellants urge that the obviousness rejection is improper and that the Examiner has failed to establish a prima facie case of obviousness.

The Examiner's argument boils down to the belief that any length projection/recess would be obvious.

Appellants disagree with that proposition generally and particularly to its application to belt elements that are not interlocking.

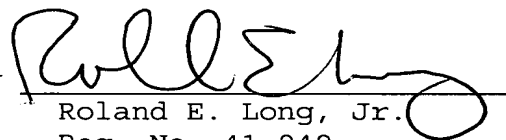
In the face of the present application identifying a problem with the prior art, reciting an improved drive belt with elements having specifically recited projection/recess features, and demonstrating the effectiveness of the recited projection/recess, coupled with there being no teaching or suggestion of forming such elements, the obviousness rejection is unfounded.

Accordingly, reversal of the pending obviousness rejection is respectfully solicited.

Respectfully submitted,

YOUNG & THOMPSON

By



Roland E. Long, Jr.
Reg. No. 41,949
Attorney for Appellants
745 South 23rd Street
Arlington, VA 22202
Telephone: 703/521-2297